

**FACT SHEET FOR NPDES PERMIT NO. WA0037079**  
**Cherrywood Mobile Home Manor Wastewater Treatment Plant**

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## **INTRODUCTION**

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the state of Washington on the basis of Chapter 90.48 Revised Code of Washington (RCW) which defines the Department of Ecology's (Department) authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the state include procedures for issuing permits (Chapter 173-220 WAC), technical criteria for discharges from municipal wastewater treatment facilities (Chapter 173-221 WAC) and water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit.

One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the Public Notice procedures).

This fact sheet has been reviewed by the Permittee and errors in fact have been corrected. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments (Appendix C) will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Changes to the permit will be addressed in Appendix C--Response to Comments.

GENERAL INFORMATION	
Applicant:	Dr. Barry Kaimakis and Mr. Bill Kaimakis 1305 4 <sup>th</sup> Avenue #516 Seattle, WA 98101
Facility Name and Address:	Cherrywood Mobile Home Manor 8412 38 <sup>th</sup> Street East Puyallup, WA 98371
Type of Treatment:	Municipal Advanced
Discharge Location:	Wapato Creek Latitude: 47° 13' 29" N Longitude: 122° 19' 03" W
Water Body ID Number:	WA-10-1015

## BACKGROUND INFORMATION

### DESCRIPTION OF THE FACILITY

#### HISTORY

This privately owned and operated wastewater treatment plant treats the domestic wastewater from a mobile home park. Commercial and industrial dischargers are not allowed. The April 17, 1969, Engineering Report by Delta Engineering for this facility states that "Cherrywood Mobile Home Manor (Cherrywood) will be an adult Mobile Home development with single ownership. Since no sewer system was available, an advanced treatment plant was permitted to discharge to Wapato Creek. The approved engineering report documents an intent to connect to a public sewer system when feasible.

The Mobile Home Park is located within the City of Puyallup sewer service area. However there are no plans to serve this area in the immediate future. As growth occurs the sewer lines continue to be extended toward this area. According to the City of Puyallup, sewer service may be available within the next five years. The nearest sewer purveyor is the City of Fife and it may also be possible for the City of Fife to provide service when and if Fife extends sewers to Freeman Road. Pierce County also has sewer lines at 70<sup>th</sup> Street and Valley, approximately two miles away.

The first wastewater discharge permit, issued December 11, 1969, was a state permit prior to implementation of the federal NPDES permit program. The permit required advanced wastewater treatment such that BOD and TSS do not exceed a monthly average of 10 mg/L and maintained a chlorine residual of at least 0.5 mg/L to assure adequate disinfection.

The NPDES permit issued in 1974 revised the maximum monthly average effluent limits for BOD and TSS to 15 mg/L. These limits have remained in effect up to the present time.

#### COLLECTION SYSTEM STATUS

There is not a complete history of the collection system and expansion of the mobile home park in our records. However, the number of homes has increased from an initial 25 to 84. The actual population served is 140. There are four pump stations serving the mobile home park including one with a line over

Wapato Creek. None of the pump stations meet current reliability and safety standards. The Department files indicate a history of infiltration and inflow into the facility with periodic attempts at repair.

#### TREATMENT PROCESSES

The approved engineering report describes a bar screen headworks, extended aeration plant with sludge storage, followed by a pressure filter, chlorination, a slow sand filter and a v-notch weir. The existing treatment plant does not use the pressure filter. The constructed facility does not include a v-notch weir. Flow is estimated from pump hours.

#### DISCHARGE OUTFALL

Treated and disinfected effluent is discharged from the facility via a bank discharge into a channelized portion of Wapato Creek. The width of the channel is approximately 16 feet as measured by the treatment plant operator. The outfall is not submerged except during high flows. The effluent discharge flow is estimated from influent pump hours.

#### RESIDUAL SOLIDS

The treatment plant removes solids during the treatment of the wastewater at the headworks (screenings), and at the secondary clarifiers, in addition to incidental solids (rags, scum, and other debris) removed as part of the routine maintenance of the equipment. Grit, rags, scum and screenings are drained and disposed of as solid waste at the local landfill. Solids removed from the clarifier are stored in a 1000 gallon holding tank without secondary containment. Liquids are decanted back to the treatment plant and solids are hauled to the King County East Section Wastewater Reclamation Plant at Renton via septic tank trunk for additional treatment.

#### *DESCRIPTION OF THE RECEIVING WATER*

Wapato Creek is designated as a Class A freshwater receiving water in the vicinity of the outfall. Characteristic uses include the following:

Water supply (domestic, industrial, agricultural); stock watering; fish migration; fish rearing, spawning and harvesting; wildlife habitat; primary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation.

Water quality of this class shall meet or exceed the requirements for all or substantially all uses.

Wapato Creek is listed on the 1996 state list of impaired water bodies (303d list) for fecal coliform and dissolved oxygen. It is also on the 1998 proposed list for instream flow.

#### *DISCHARGE OUTFALL AND DILUTION*

The outfall consists of a pipe which discharges from the bank into a channeled portion of Wapato Creek. The critical condition for Wapato Creek is the seven-day average low river flow with a recurrence interval of ten years (7Q10). Ambient data at critical conditions in the vicinity of the Cherrywood outfall was taken from treatment plant monitoring records and information from the Puyallup tribe.

Parameter	Value used
7Q10 low flow	0.00
Temperature	20° C when flowing
pH (high)	7.9 when flowing
Dissolved Oxygen	5.9 mg/L when flowing
Total Ammonia-N	0.6 mg/L when flowing
Fecal Coliform	(>100/100 mL storm related)

Hydrology data indicates that the creek went dry in June 1992 and in August and September 1994. A culvert approved in 1977 for up to 110 cfs diverts the upper drainage into the Puyallup River bypassing the creek. Because there are occasions when there is no or very little flow in the creek, the discharge must meet water quality standards at the outfall. The discharge should also connect to a public sewer system at the earliest opportunity.

#### *GROUND WATER QUALITY LIMITATIONS*

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100).

This Permittee has no discharge to ground and therefore no limitations are required based on potential effects to ground water.

#### *PERMIT STATUS*

The previous permit for this facility was issued on February 2, 1979. The previous permit placed effluent limitations on 5-day Biochemical Oxygen Demand (BOD<sub>5</sub>), Total Suspended Solids (TSS), pH, Fecal Coliform bacteria, and flow.

An application for permit renewal was submitted to the Department in October 1998, and accepted by the Department on November 25, 1998.

COMPARISON OF PROPOSED EFFLUENT LIMITS WITH THE EXISTING PERMIT ISSUED FEBRUARY 2, 1979. The basis for the new limits is discussed later in this fact sheet.

Parameter	Existing Permit Limits		Proposed Permit Limits	
	Monthly Average	Weekly Average	Monthly Average	Weekly Average
	Technology Based Limits			
Flow	0.016 MGD		0.016 MGD	
Fecal Coliform	200/100 mL	400/100 mL	See WQ based limits below	
pH	6 to 9 standard units		See WQ based limits below	
	Water Quality Based Limits			
BOD	15 mg/L 85 % removal 2 lb/day	23 mg/L 3 lb/day	15 mg/L 85 % removal 2 lb/day	23 mg/L 3 lb/day
TSS	15 mg/L 85 % removal 2 lb/day	23 mg/L 3 lb/day	15 mg/L 85 % removal 2 lb/day	23 mg/L 3 lb/day
			Monthly Average	Daily Max.
Fecal Coliform	See technology based limits above		100/100mL	200/100mL
pH	See technology based limits above		6.5 to 8.5 standard units	
Chlorine	None		0.007 mg/L	0.018 mg/L
Ammonia (June-Oct)	None		0.8 mg/L	1.8 mg/L

#### WASTEWATER CHARACTERIZATION

The concentration of pollutants in the discharge was reported in the NPDES application and in discharge monitoring reports. The effluent is characterized as follows:

**Table 1: Wastewater Characterization**

<u>Parameter</u>	<u>annual average</u>	<u>lowest monthly average</u>	<u>highest monthly average</u>
Flow (MGD)	0.0107	0.0064	0.0186
BOD <sub>5</sub> (mg/L)	3	1	5
TSS (mg/L)	3	2	4
Fecal Coliform (colonies per 100 mL)	-	-	100
Total Residual Chlorine (mg/L)	0.47	0.32	0.60
Dissolved Oxygen	6.4	5.7	7.1
Total NH <sub>3</sub> -N (July-Oct) (mg/L)		0.2	0.3
daily maximum 0.6 mg/L			
pH range (not average)		low pH = 7.0	high pH = 7.4

### PROPOSED PERMIT LIMITATIONS AND CONDITIONS

Federal and state regulations require that effluent limitations set forth in a NPDES permit must be either technology or water quality-based. Technology-based limitations for municipal discharges are set by regulation (40 CFR 133, and Chapters 173-220 and 173-221 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC) or Sediment Quality Standards (Chapter 173-204 WAC). The most stringent of these types of limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

#### DESIGN CRITERIA

In accordance with WAC 173-220-130(1)(a), effluent limitations shall not be less stringent than those based upon the design criteria for the facility, which are contained in approved engineering plans, reports, or approved revisions. Also, in accordance with WAC 173-220-150 (1)(g), flows or waste loadings shall not exceed approved design criteria.

The design criteria for this treatment facility are taken from the April 17, 1969, engineering report prepared by Delta Engineering and are as follows:

**Table 2: Design Standards for Cherrywood Mobile Home Manor WWTP**

<u>Parameter</u>	<u>Design Quantity</u>
Monthly average flow (max. month)	16,000 gpd
BOD <sub>5</sub> influent loading	40 lbs/day
TSS influent loading	40 lbs/day
Design population equivalent	200 residents/80 mobile homes



### *SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT*

The facility received its last compliance inspection on May 15, 1998. The plant has a good record of compliance with the existing NPDES permit effluent limitations. Since May 1994, the treatment has had seven monthly flow violations, one monthly BOD concentration violation, one suspended solids (TSS) concentration and mass loading violation, and two TSS percent removal violations.

### *TECHNOLOGY-BASED EFFLUENT LIMITATIONS*

Municipal wastewater treatment plants are a category of discharger for which minimum technology-based effluent limits have been promulgated by federal and state regulations. These effluent limitations are given in the Code of Federal Regulations (CFR) 40 CFR Part 133 (federal) and in Chapter 173-221 WAC (state). The following technology-based limits for pH, fecal coliform, BOD<sub>5</sub>, and TSS are taken from Chapter 173-221 WAC are:

**Table 3: Technology-based Limits**

Parameter	Limit
pH:	shall be within the range of 6 to 9 standard units.
Fecal Coliform Bacteria	Monthly Geometric Mean = 200 organisms/100 mL Weekly Geometric Mean = 400 organisms/100 mL
BOD <sub>5</sub> (concentration)	Average Monthly Limit is the most stringent of the following: - 30 mg/L - may not exceed fifteen percent (15%) of the average influent concentration Average Weekly Limit = 45 mg/L
TSS (concentration)	Average Monthly Limit is the most stringent of the following: - 30 mg/L - may not exceed fifteen percent (15%) of the average influent concentration Average Weekly Limit = 45 mg/L

The following mass limits are based on WAC 173-220-130(3)(b) and 173-221-030(11)(b).

Monthly effluent mass loadings (2 lbs/day) were calculated as the maximum monthly design flow (0.016 MGD) x Concentration limit (15 mg/L) x 8.34 (conversion factor) = mass limit 2 lbs/day.

The weekly average effluent mass loading is calculated as 1.5 x monthly loading = 3 lbs/day.

### *SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS*

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Washington State Surface Water

Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state.

Wapato Creek is listed on the state list of impaired water bodies (303d list) for fecal coliform and dissolved oxygen. It is on the 1998 proposed list for inadequate instream flow. For all other parameters, the Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit.

#### CONSIDERATION OF SURFACE WATER QUALITY-BASED CRITERIA

##### ***Critical Conditions***

Determination of the reasonable potential for exceedance of the surface water standards quality standards are made for the waterbody's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic water body uses.

##### ***Chlorine Considerations***

Discharges from wastewater treatment plants that use chlorine for coliform control are likely to have a reasonable potential for chlorine toxicity, unless, dechlorination or other chlorine control methods are practiced at the plant and there is adequate dilution of the effluent by the receiving water.

The discharge from this facility has a reasonable potential to exceed the water quality standards for chlorine. The permit requires implementation of measures to ensure compliance with the chlorine water quality standards. Numeric limits will be placed in the permit based on the water quality standard. This permit contains a compliance schedule for implementation of measures to control effluent chlorine concentrations to meet these limits over the permit cycle.

##### ***Ammonia Considerations***

Calculations of the ammonia criteria under critical conditions suggest that there is a seasonal (June through October) reasonable potential for exceedance of the water quality standards.

Nitrification is expected to occur in the biological systems as part of their normal operation, especially in the warmer seasons. Nitrification causes the effluent ammonia concentration to decrease which will correspondingly reduce the potential for exceedance of the ammonia criteria in the receiving water. Data from the treatment plant submitted with this application indicates that the treatment plant is able to nitrify sufficiently to meet the proposed effluent limits. However, it will be important to continue to operate the plant in this mode.

The POTW operator should implement necessary actions to maintain optimum plant nitrification during the critical period of June, through October.

#### **MONITORING AND REPORTING**

Effluent monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

The monitoring and testing schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies take into account the quantity and variability of discharge, the treatment method,

past compliance, significance of pollutants, and cost of monitoring. The required monitoring frequency is consistent with agency guidance given in the current version of the Department Permit Writer's Manual.

## **OTHER PERMIT CONDITIONS**

### *PREVENTION OF FACILITY OVERLOADING*

Overloading of the treatment plant is a violation of the terms and conditions of the permit. To prevent this from occurring, RCW 90.48.110 and WAC 173-220-150 require the Permittee to take the actions detailed in proposed permit requirement S.4. to report and correct conditions that could result in new or increased discharges of pollutants. Condition S.4. restricts the amount of flow. Condition S.4. also requires the Permittee to connect to public sewers as soon as they are available.

### *OPERATION AND MAINTENANCE (O&M)*

The proposed permit contains condition S.5. as authorized under RCW 90.48.110, WAC 173-220-150, Chapter 173-230 WAC, and WAC 173-240-080. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

### *RESIDUAL SOLIDS HANDLING*

To prevent water quality problems the Permittee is required in permit condition S6. to store and handle all residual solids (grit, screenings, scum, sludge, and other solid waste) in accordance with the requirements of RCW 90.48.080 and State Water Quality Standards.

The final use and disposal of sewage sludge from this facility is regulated by U.S. EPA under 40 CFR 503. The disposal of other solid waste is regulated by the jurisdictional health department.

## **GENERAL CONDITIONS**

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual NPDES permits issued by the Department.

## **PERMIT ISSUANCE PROCEDURES**

### *PERMIT MODIFICATIONS*

The Department may modify this permit to impose additional numerical limitations, if necessary to meet Water Quality Standards, Sediment Quality Standards, or Ground Water Standards, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

*FACT SHEET FOR NPDES PERMIT NO. WA0037079*

*Cherrywood Mobile Home Manor*

*RECOMMENDATION FOR PERMIT ISSUANCE*

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to protect human health, aquatic life, and the beneficial uses of waters of the state of Washington. The Department proposes that this permit be issued for a maximum of five years.

*REVIEW BY THE PERMITTEE*

A proposed permit was reviewed by the Permittee for verification of facts. Only factual items were corrected in the draft permit and fact sheet.

## **APPENDICES**

### *APPENDIX A--PUBLIC INVOLVEMENT INFORMATION*

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department will publish a Public Notice of Draft (PNOD) to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Water Quality Permit Coordinator  
Department of Ecology  
Southwest Regional Office  
P.O. Box 47775  
Olympia, WA 98504-7775

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and the reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (360) 407-6279, or by writing to the address listed above.

*APPENDIX B--GLOSSARY*

**Acute Toxicity**--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

**Ambient Water Quality**--The existing environmental condition of the water in a receiving water body.

**Ammonia**--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

**Average Monthly Discharge Limitation**--The average of the measured values obtained over a calendar month's time.

**Average Weekly Discharge Limitation** -- The highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week. The daily discharge is calculated as the average measurement of the pollutant over the day.

**Best Management Practices (BMPs)**--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

**BOD<sub>5</sub>**--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD<sub>5</sub> is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

**Bypass**--The intentional diversion of waste streams from any portion of a treatment facility.

**Chlorine**--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

**Chronic Toxicity**--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

**Class 1 Inspection**--A walk-through inspection of a facility that includes a visual inspection and some examination of facility records. It may also include a review of the facility's record of environmental compliance.

**Class 2 Inspection**--A walk-through inspection of a facility that includes the elements of a Class 1 Inspection plus sampling and testing of wastewaters. It may also include a review of the facility's record of environmental compliance.

**Clean Water Act (CWA)**--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

**Combined Sewer Overflow (CSO)**--The event during which excess combined sewage flow caused by inflow is discharged from a combined sewer, rather than conveyed to the sewage treatment plant because either the capacity of the treatment plant or the combined sewer is exceeded.

**Composite Sample**--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

**Construction Activity**--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

**Critical Condition**--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

**Daily Maximum Discharge Limitation**--The greatest allowable value for any calendar day.

**Dilution Factor**--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the effluent fraction.

**Engineering Report**--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

**Fecal Coliform Bacteria**--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

**Grab Sample**--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

**Industrial Wastewater**--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

**Infiltration and Inflow (I/I)**--"Infiltration" means the addition of ground water into a sewer through joints, the sewer pipe material, cracks, and other defects. "Inflow" means the addition of rainfall-caused surface water drainage from roof drains, yard drains, basement drains, street catch basins, etc., into a sewer.

**Mixing Zone**--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

**National Pollutant Discharge Elimination System (NPDES)**--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

**pH**--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

**Potential Significant Industrial User**--A potential significant industrial user is defined as an Industrial User which does not meet the criteria for a Significant Industrial User, but which discharges wastewater meeting one or more of the following criteria:

- a. Exceeds 0.5 % of treatment plant design capacity criteria and discharges <25,000 gallons per day or;
- b. Is a member of a group of similar industrial users which, taken together, have the potential to cause pass through or interference at the POTW (e.g. facilities which develop photographic film or paper, and car washes).

The Department may determine that a discharger initially classified as a potential significant industrial user should be managed as a significant industrial user.

**Significant Industrial User (SIU)**--

- 1) All industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N and;
- 2) Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blow-down wastewater); contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority\* on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

Upon finding that the industrial user meeting the criteria in paragraph 2, above, has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the Control Authority\* may at any time, on its own initiative or in response to a petition received from an industrial user or POTW, and in accordance with 40 CFR 403.8(f)(6), determine that such industrial user is not a significant industrial user.

\*The term "Control Authority" refers to the Washington State Department of Ecology in the case of non-delegated POTWs or to the POTW in the case of delegated POTWs.**State Waters**--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

**Stormwater**--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

**Technology-based Effluent Limit**--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

**Total Suspended Solids (TSS)**--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

**Upset**--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.



**Water Quality-based Effluent Limit**--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C--RESPONSE TO COMMENTS

This response to comments (RTC) is an appendix to the fact sheet for the above referenced NPDES permit. The RTC summarizes comments received during the 30-day public notice and comment period on the draft permit, and provides the Department of Ecology (Department) response. All changes to the draft permit are noted below. The Department has determined to issue this permit as revised.

Comments were received from Greg Kongsli, Operator in Charge. Comments are lengthy and therefore paraphrased in this document. The complete comments are attached.

1. Comment:

I/I Evaluations are a new requirement. The evaluations will have a cost to developing, identifying and repairing identified inflow sources. I agree that I/I reduction needs to be a priority. This needs to be phased in for a reasonable timetable for improvements. I have requested that the owner proceed to schedule an evaluation of I/I sources this year and begin making repairs. The time scheduled for repairs will not be known until the assessment is done. The facility is a senior park with limited resources to pay the costs.

Response:

A year is a reasonable timetable for assessing the I/I problem and deriving a plan and schedule for correction. We concur that the schedule for repairs will not be known until the assessment is done and the work and associated costs can be identified. This is the purpose for the plan.

Change to Permit:

No change

2. Comment:

The plan to connect to public sewers is a new requirement. Connecting to public sewers is not an option at this time. Public sewers may however become available within five years. Does it make sense to require major capital upgrades to this facility when the facility is required to hook up to sewers if they become available.

Response:

The approved engineering report for the original facility required connection to public sewers when they become available. It now appears that sewers will be available within the next 3 to 5 years. The timing in the permit is planned to allow major capital upgrades to be deferred if connection to sewers is imminent. The requirements are also intended to expedite the process of connecting to sewers or alternatively upgrade the treatment plant in order to protect water quality.

Change to Permit:

No change

3. Comment:

A 7Q10 flow of zero is extreme to establish as a base for parameter limits. There could be both an average flow standard and a zero flow standard? Using zero makes unlikely that the plant could achieve compliance. It is unknown operationally if this plant can achieve the ammonia removal proposed. Prior to establishing these limits, more NH<sub>3</sub> testing needs to confirm whether or not this value is possible. Maybe this parameter level can be raised to 2-3 mg/L to provide a buffer to prevent non-compliance. Otherwise the plant is at risk for noncompliance without any options outside of risking fines and lawsuits or closure.

Response:

The 7Q10 low flow of zero is based on actual data collected by the Puyallup tribe. Effluent limits are established to be protective for all anticipated receiving water conditions. As noted in your comment letter, ammonia discharge levels are typically lower than 1 mg/L. Data submitted indicates that the facility should be able to achieve the water quality based limits of 0.8 mg/L monthly average and 1.8 mg/L daily maximum during the critical summer seasons. Since the monitoring data from the treatment plant currently meets this requirement, it should be able to continue to do so in the future. There is no justification for an interim limit.

4. Comment:

New, more stringent limits on fecal coliform should be delayed until chlorine limits are in place. During the interim period before we dechlorinate we would have to discharge higher levels of chlorine to meet the lower fecal coliform limits.

Response:

Your comment is noted. It is in the overall interest to minimize the discharge of chlorine from this facility. There is limited monitoring data available to determine the levels of chlorine that would be needed to meet the more stringent disinfection requirement. If, as you are suggesting, the treatment plant cannot reliably meet the water quality limits for fecal coliform without discharging significantly more chlorine, a compliance schedule for the more stringent fecal coliform limit may be appropriate.

Changes to Permit:

Condition S1 is changed to provide an interim fecal coliform limit at the technology based level of 200/100 mL monthly average and 400cfu/100mL weekly average limit. The deadline to meet the final effluent limits will be June 1, 2002, coinciding with the final deadline for chlorine.

5. Comment:

Effluent pH should not be a problem to maintain within the new established limits, however I have not reviewed all the past data to confirm this.

Response:

Monitoring data from the Permittee indicates that the effluent should be able to meet the pH requirement.

Changes to Permit:

No change.

6. Comment:

The compliance schedule requires a report to be submitted by January 15, 2001 describing implementation of dechlorination control measures. Possible options could range from \$500 to \$7000 or more depending on what the Department will accept.

Response:

Comment noted. The permit provides adequate time to evaluate the costs of alternatives.

Changes to Permit:

Not required.

7. Comment:

The proposed schedule increases the testing frequency for BOD and fecal coliform from one per month to one per week. This will increase costs for lab services for these two tests by a minimum of \$200 per month. Also, the sample type has been altered from hourly composite grabs over 12 hours to 24-hour composites. This change will require purchase of a dual point sampler with refrigerator for sample cooling at a cost of approximately \$5000 new. There is no phase in for this purchase. This requirement should be phased in to spread costs over a period of years.

Response:

Ecology's Permit Writer's manual states that weekly testing and twenty-four composites are the minimum testing requirements. Portable samplers with ice could be used. The Permittee may be able to purchase used equipment at significantly lower cost. Realizing that this is a significant change, the request to phase in the requirement is reasonable. Ninety days should be more than adequate.

Changes to Permit:

Section S2 of permit is modified to allow 90 days before 24 hour composite sampling is required.

8. Comment:

Section S2.C. requires appropriate flow measuring device to be purchased to measure effluent flows. This is another immediate cost to the treatment plant. Equipment cost to install a magnetic flow meter or similar flow device is \$3000 or more. This should be phased in over time.

Response:

This is standard language in all permits. The original engineering report included a v-notch weir which was apparently never installed. The Permittee should investigate flow measurement options and implement an effective measuring device as soon as possible. This is needed to quantify flows including infiltration and inflow as well as to more accurately document effluent quantities. Since adequate flow measurement does not exist at this time, the permit will provide ninety days for installation.

Changes to Permit:

Allow 90 days for installation of flow measurement device.

9. Comment:

The treatment plant is currently exceeding the average flow for the maximum month occasionally due to infiltration and inflow and will be a source of violations until flow sources are identified and corrected. This permit requires an inflow evaluation schedule by April 15, 2000. Unless a compliance schedule is established to meet the flow, we will be in direct conflict with the requirement.

Response:

The average flow for the treatment plant is based on treatment plant design criteria. This is not a new requirement. Because the Permittee is exceeding design flows, the infiltration and inflow reduction program is a priority.

Changes to Permit:

No change to permit.

10. Comment:

It does not make sense to require reductions to I/I, purchasing flow measuring, dechlorination, generators, and sampling equipment to a facility which is to close as soon as available sewer connections are established. The value to the environment is low as this facility already discharges a high quality effluent. Past data shows the plant can meet 98 to 99% removals of both TSS and BOD5. Ammonia is discharged lower typically than Wapato Creek levels. Effluent chlorine discharges are typically less than 0.06 mg/L. It would seem that since the plant has been meeting a high standard of removal of pollutants it should warrant consideration to delaying, modifying or phasing identified improvements over a time frame which recognizes the intent of this facility to connect to public sewer.

Response:

The requirements in the permit are considered minimum requirements given that the wastewater will be transferred to public sewers as soon as they are available. The permit also provides for compliance schedules that allow a great deal of flexibility in timing of implementation. Thus major capital expenditures can be deferred for a reasonable period of time. However, the Permittee is expected to take steps as quickly as practicable to come into compliance with requirements. The effluent has the potential to exceed existing water quality standards and the treatment plant does not have the required reliability and safety features to meet current requirements.

Changes to Permit:

No change

11. Comment:

Section S5.D. requires on site power generation to a minimum operate the plant blower, one influent pump and chlorinating system. A portable generator could be used at the lift stations. Depending on sizing this could cost up to \$3000 or more. The park has recently undergone replacement of underground electrical services by Puget Sound Energy which will decrease the chances of power outages. If an outage exists, the water system is shut down to prevent surcharging sewers and overflows. Does this operation still require generators under zero flow conditions?

Response:

Section S5.D. is standard language for all permits. It requires the permittee to prevent the discharge of inadequately treated wastes by means of alternate power sources, generators or retention of inadequately treated wastes. It does not specifically require on site power generation. Backup power should be sufficient to operate all vital components and critical lighting and ventilation.

Changes to Permit:

No change.

12. Comment:

I am requesting a meeting for us to discuss these proposed modifications. I am also requesting additional time to comment as I did not receive the proposed permit until January 23, 1999.

Response:

Per telephone conversation with Mr. Kongslied on April 20, 1999, a meeting is no longer necessary. The Permittee is moving forward to meet the permit requirements.